Weak Definites and Kinds of Events

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Overview

- The Phenomenon
- The Questions
- Attempts at Answers
- Further Properties of Weak Definites
- Open Issues and Outlook
Definites without uniqueness

(1) John is reading the newspaper, and Bill is too.
(2) Every accident victim was taken to the hospital
Definites without uniqueness

(1) John is reading the newspaper, and Bill is too.

(2) Every accident victim was taken to the hospital

Enrichment

(2) John is in the hospital for medical treatment.
Definites without uniqueness

(1) John is *reading the newspaper*, and Bill is too.
(2) Every accident victim was *taken to the hospital*

Enrichment

(2) $\rightsquigarrow$ John is in the hospital *for medical treatment*.

No Anaphora

(3) Bill is *in the hospital*. It has a very nice roof-top garden.
Core Properties of Weak Definites (Carlson et al. 2006)

Definites without uniqueness

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Distributional Restrictions

- Lexical restrictions (nouns, verbs, prepositions)
- Generally incompatible with modifiers
- Generally only available for objects
The Questions

- Why are the definites interpreted in a non-standard way in these cases?
  → What happened to the uniqueness requirement?

- Where do the distributional restrictions come from?

- Why is the definite article used here in the first place?
  (→ cross-linguistically common pattern! (Schwarz to appear))

- How do these cases relate to other non-standard combinations of arguments and verbs?
  (Pseudo-Incorporation)
Attempts at Answers

Ambiguity of definite article or Fixed Constructions?
Not satisfactory as an explanation of systematic phenomena
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Kind-denoting definites (Aguilar-Guevara and Zwarts 2011)
- Definite introduces kind
- Verb includes realization relation
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Regular definites in kind-denoting verb phrases Proposal here
- Definites start out with regular meaning
- Shifted to predicate meaning
- verb variant that yields a kind of event (or state)
Not just Associative Anaphora

Every race-car driver tightly gripped the steering wheel.

(Schwarz 2009)

While initially tempting, seeing Weak Definites as a case of Associative Anaphora fails to capture crucial differences:

1. Dependence on contextual support
2. Role of Uniqueness
3. Support of anaphora
Not just Associative Anaphora

Associative Anaphora

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- Dependence on contextual support
- Role of Uniqueness
- Support of anaphora
Associative Anaphora need some type of contextual anchoring:

(5) ??Every student tightly gripped the steering wheel.

(6) The students were participating in a car race. As the race was about to start, every student tightly gripped the steering wheel.
Role of Contextual Support

Associative Anaphora need some type of contextual anchoring:

(5) ??Every student tightly gripped the steering wheel.

(6) The students were participating in a car race. As the race was about to start, every student tightly gripped the steering wheel.

No contextual support needed for Weak Definites

(7) Every accident victim was taken to the hospital.

(8) Every student was taken to the hospital.
Role of Uniqueness

Associative anaphora gives rise to uniqueness effects, even under quantification:

(9) \#(As the race was about to start,) every race-car driver checked the tire.
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Associative anaphora gives rise to uniqueness effects, even under quantification:

(9) #\((\text{As the race was about to start,})\) every race-car driver checked the tire.

No standard uniqueness effects with Weak Definites

(10) Every accident victim ended up in the hospital for weeks. In fact, most of them ended up having to be treated in several different hospitals because of complications with their various injuries.
Support of Anaphora

Associative Anaphora Definites support anaphoric pronouns:

(11) The race-car drivers each got to test-drive a Porsche of the latest model...

(12) After breakfast, every driver got into his car, checked out the steering wheel and discovered that despite the humid weather it felt nice and cool and allowed for a firm grip.

(→ No Weak Definite reading)
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Weak Definites generally do not support anaphora

(13) Every accident victim was taken to the hospital and discovered that it had a beautiful roof-top garden.

(→ No Weak Definite reading)
Verb Phrases denoting Kinds of Events

Long-standing observation: Incorporation / Pseudo-Incorporation / Bare Singulars express 'typical activities' (Axelrod 1990)

(see also Mithun 1984; Reuse 1994; Carlson 2006)

Weak Definites and Kinds of Events

Verb phrases containing Weak Definites also seem to express typical types of activities (or states)

Proposal here:

Weak Definites are regular definites that appear in verb phrases that denote kinds of events (or states)
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Predicates of Kinds of Events

Widespread activities (as reported on the web)

(14) For news employees, pickling artichokes is a wide-spread activity.

(15) Mushroom farming is a wide-spread activity around the world.
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### Widespread activities (as reported on the web)

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(15) Mushroom farming is a wide-spread activity around the world.

### Widespread Events with Weak Definites

(16) Reading the newspaper is a wide-spread activity.

(17) #Reading the book is a wide-spread activity.
Technical Background

Chierchia-style semantics for kind-reference

- Kinds are *intensions of ‘maximal homogeneous pluralities’*
- They map worlds onto the relevant maximal plurality (Chierchia 2010)

\[ \text{New proposal: } \text{resulting verb phrase denotes a kind of event} \]

\[ \text{J} \text{read} \text{TV} \text{K} = \lambda x. \lambda e. [\text{J} \text{read}(e) \& \text{Th}(e) = x] \]

\[ \text{J} \text{read} \text{kind K} = \lambda P.e, s. \lambda s. \iota \ast \{e | \text{J} \text{read}(e) \& \exists x [P(x)(e) \& \text{Th}(e) = x] \& e \leq s \} \]

\[ \Rightarrow \text{'The reading-P event kind'} : \text{For a given } P \text{ and world } w, \text{the maximal event-plurality of } P \text{-reading events} \]
Technical Background

**Chierchia-style semantics for kind-reference**
- Kinds are *intensions of ‘maximal homogeneous pluralities’*
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**Verb denotations that map properties to kinds of events**
- variants of verbs that take *predicates* as their arguments (Dayal 2011)
- **New proposal:** resulting verb phrase denotes a kind of event

\[
\dbr{read_{TV}} = \lambda x.\lambda e. \left[ read(e) \land Th(e) = x \right]
\]

\[
\dbr{read_{kind}} = \lambda P_e, st. \lambda s. \iota^* \{ e \mid read(e) \land \exists x [ P(x)(e) \land Th(e) = x ] \land e \leq s \}
\]

\[\leadsto \text{‘The reading-} P \text{ event kind’ : For a given } P \text{ and world } w, \]
the *maximal event-plurality of } P\text{-reading events}
Shifting back from kinds to properties of events

**Toy example:** \texttt{read newspaper} \(\approx\) \texttt{newspaper-reading}

(18) \[ k_{\text{newspaper-read}} = \lambda s. i^*\{e \mid \text{read}(e) \& \exists x[\text{newspaper}(x)(e) \& Th(e) = x] \& e \leq s\} \]
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Shifting back to property of events to combine with \textit{Ag}

\[(19)\]
\[\llbracket \text{Ag} \rrbracket = \lambda p_{\langle s, t \rangle}. \lambda x. \lambda e. [p(e) \& \text{Ag}(e) = x] \]

\[(20)\]
If \(P\) is a function from predicates of events (\(\langle s, t \rangle\)) to properties (\(\langle e, st \rangle\)) and \(k\) denotes a kind of event, then
\[P(k) = \lambda x. \lambda e. [P(\cup k)(x)(e)] \]
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A Chierchia style ‘\textit{\cup}’-operator for event kinds:

\[(21) \quad \cup k_{\text{newspaper-read}} = \lambda e \exists e' [e' \leq k_{\text{newspaper-read}}(s_e) \land e \leq e'] \]
Weak Definites in Kind-denoting Verb Phrases

Type-shifting the definite to a predicate-type

(22) \[ \text{[the newspaper]} = \lambda s.\iota[P(s)] \]

(23) \[ \text{ident} = \lambda I_{\langle s, e \rangle}.\lambda y.\lambda s.\[ y = I(s) \] \]

(24) \[ \text{ident}([\text{the newspaper}]) = \lambda y.\lambda s.\[ y = \iota[\text{newspaper}(s)] \] \]
Weak Definites in Kind-denoting Verb Phrases

Type-shifting the definite to a predicate-type

(22) $\llbracket$the newspaper$\rrbracket = \lambda s.\iota[P(s)]$

(23) $ident = \lambda l_{(s,e)}.\lambda y.\lambda s.[y = l(s)]$

(24) $ident(\llbracket$the newspaper$\rrbracket) = \lambda y.\lambda s.[y = \iota[newspaper(s)]]$

Applying the kind-variant of the verb to this:

(25) $\llbracket$read$^\text{kind}_{ident(\text{the newspaper})}\rrbracket = k_{\text{read-the-newspaper}}$

$\quad = \lambda s.\iota^*\{e \mid \text{read}(e) \land \exists x[ x = \iota[newspaper(e)] \land Th(e) = x] \land e \leq s\}$
Uniqueness Vanished

Shifting back to property of events

\[\bigcup k_{\text{read-the-newspaper}} = \lambda e \ \exists e' \ [e \leq e' \ & \ e' \leq k_{\text{book-read}}(s_e)]\]

\[= \lambda e \ \exists e' \ [e \leq e' \ & \ e' \leq [\lambda s.\ i^*\{e\ | \ \text{read}(e) \ & \ \exists x[ x = i[\text{newspaper}(e)] \ & \ \text{Th}(e) = x] \ & \ e \leq s]}(s_e)]\]

- **uniqueness** is relativized to the events \(e\) that form the basis of the kind
- it is therefore trivially satisfied
- this will also ensure (possible) covariation with quantificational examples

(\textit{Everyone was reading the newspaper})
Lack of Anaphora

Existential quantification over object is embedded in kind-formation process, so we don’t expect to be able to pick up the object anaphorically.
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Enrichment

- Enrichment is commonly involved when talking about kinds
- ‘Typical activities’ presumably come with a very specific set of properties
Lack of Anaphora

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Distributional restrictions

- Kind reference (at least of a certain type) is known to be restricted to established kinds (the coke bottle vs. the green bottle)
- Parallel restrictions at play that limit the availability of Weak Definite in kind-denoting verb phrases.
Restriction to Objects

Follows on view taken here that subjects are introduced externally

(Marantz 1984; Kratzer 1996)
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More Non-Uniqueness

- taking the train can involve multiple trains!
- But: still only one train at a time
- Hidden uniqueness effect rears its head: events out of which the kind is constructed have to involve only one individual of the relevant type.
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Contrast: Plural Weak Definites

(26) John cleaned the windows.
Hidden Existence Presupposition?

After an accident on a cruise ship, in the middle of the Atlantic:

(27)  #We have to get you to the hospital somehow!
(28) ✓We have to get you to a hospital somehow!

Even Weak Definites seem to require the existence of an individual with the relevant property within reach.
Further Properties of Weak Definites

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Contrast with bare singulars?

Doctor / law enforcement official in same situation:

(29)  #I will have to send you to the hospital for this.
(30) ✓I will have to send you to jail for this.
Further Properties: Aspect

Atelicity

(31) John read the newspaper for hours and hours.

- unlike read the book
- Atelicity follows from formulation of $\cup$-operator above
- Do telicity-enforcing modifiers render Weak Definite reading unavailable?
Further Properties: Aspect

**Atelicity**

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**Multiple and partial newspaper readings**

- Given the formulation here, readings of multiple newspapers are included as parts of the kind $k_{\text{read-the-newspaper}}$
- Moreover, partial newspaper readings are also included
Weak Definites are regular definites

Standard effects of uniqueness get hidden by kind-formation process at the level of the verb phrase

This gives rise to further non-standard properties of these verb phrases and helps to account for restrictions on Weak Definites

Still, remnants of standard definite interpretation seem to re-surface once we look more closely.
Comparison with Aguilar-Guevara & Zwarts 2011

Kind-referring definites
- Similar in spirit, but **kind-reference at the level of the definite**
- Verb meanings with built-in realization relation

Points of Divergence
- Role of standard uniqueness & existence presuppositions
  - Cruise-ship example - **not just mere existence?**
  - Differences between singular and plural?
- Aspectual properties
  - Atelicity of **read the newspaper**
  - Partial newspaper readings
Open Questions

- Relation between implicity VP-kind-formation and **overt morphology** (e.g., -ing in nominalization with same or similar effect)

- How does the present version **generalize to PP-cases** (kinds of states of being in a certain type of place?)

- What does it take to be an **established kind of events**?

- What determines whether a **bare singular or a Weak Definite** gets used?

- Does the analysis here **extend to (pseudo-) incorporation** more generally?


